



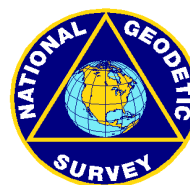
Project Specific Scope of Work

Contract/Grant Description: **NOAA Colorado Height Modernization Program**

Project Location:
Statewide

CDOT Contract/Grant Coding:

Funds Center: Y9832-320
Grant: NOAA20001280
WBS Element: NOAA20001280.2008
Appropriation Code: 320
GL Account Number: 4231200010
Function: Not Relevant
CFDA: 11.400



Scope of Work
Colorado Height Modernization Program

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Section 1 – CoHMP Project Specific Information

1.01 Introduction

The Colorado Department of Transportation (CDOT), in cooperation with the Colorado Height Modernization Advisory Board (CoHMAB); a group of individuals, agencies and private enterprise consisting of a wide range of Colorado-based scientific, technical and professional representatives; recognize that Colorado's Height Modernization Program (CoHMP) goals and objectives are critical to the overall success of the National Height Modernization Program (NHMP).

As a state, Colorado has demonstrated strong support for the NHMP by hosting several local and regional forums, conferences and workshops. The CoHMP shares similar attributes with other states programs and is the first of its kind for Colorado to move forward in support of the NHMP to benefit local, state and national stakeholders

CDOT, in conjunction with the CoHMAB, submitted a CoHMP Proposal in response to the Department of Commerce (DOC); National Oceanic Atmospheric Administration (NOAA); National Ocean Service (NOS); NHMP grant funding opportunity.

Based on the CoHMAB Proposal submitted, CDOT was a successful grant award recipient for this project.

Funding limits and timelines for this project consists exclusively of the NOAA grant award and shall not be extended beyond the limits of the grant award. No exceptions shall be made. The consultant shall work closely with CDOT and the CoHMAB to identify modifications and enhancements to this Scope of Work as deemed reasonable and necessary to meet the goals and objectives without exceeding the funding limits for the project or without extending the timeline of the project.

1.02 Purpose, Oversight and Responsibility

The purpose of this Scope of Work is to define the necessary work to be completed by the consultant to meet the requirements of the CoHMP Proposal in order to move the CoHMP forward and receive additional grant awards.

Oversight and consultant management is the sole responsibility of CDOT. Successful completion of the project will be determined by acceptance of the final Statewide CoHMP Partnership Plan by CDOT and the CoHMAB.

The CoHMAB will act as an advisory board and may even be called upon to provide assistance to the consultant. Close communication between CDOT, the consultant and the CoHMAB is required throughout this Scope of Work. The CoHMAB shall be an integral part of the project and utilized by the consultant and CDOT when deemed reasonable and necessary throughout this Scope of Work to meet the goals and objectives without exceeding the funding limits for the project or without extending the timeline of the project.

1.03 Goals and Objectives

The overall goal and objective of the CoHMP is for the consultant to provide CDOT and the CoHMAB with a Statewide CoHMP Partnership Plan. The following supporting goals and objectives for this project are intended to support the consultant's development of the Statewide CoHMP Partnership Plan:

Overall Goal and Objective:

Statewide CoHMP Partnership Plan

Supporting Goals and Objectives:

- 1) Outreach
- 2) Education
- 3) Communication
- 4) CoHMP Forums
- 5) CoHMP Technical Workshops
- 6) Partnerships
- 7) Statewide Needs Assessment

Overall and supporting goals and objectives for this project have been pre-determined by the CoHMAB and accepted by NOAA per the CoHMP Proposal. Modifications to the overall and supporting goals and objectives are non-negotiable.

Supporting Goals and Objectives	CoHMP Benefits
1) Outreach	a) Outreach material will be developed. b) Over 125 contacts with local, state and federal agencies will be made. c) Follow up contact will be conducted throughout the project.
2) Education	a) Educational material will be developed. b) Two CoHMP Forums will be held. c) Two CoHMP Technical Workshops will be held.
3) Communication	a) Dialog with over 125 local, state and federal agencies will be held. b) Follow up dialog will be conducted throughout the project. c) CoHMP development will occur to enhance communication.
4) CoHMP Forums	a) Two CoHMP Forums will be developed (east and west slopes.) b) Statewide Needs Assessment information will be gathered. c) Cooperation with the CoHMAB..
5) CoHMP Technical Workshops	a) Two CoHMP Technical Workshops will be developed (east and west slopes.) b) Statewide Needs Assessment information will be gathered. c) Cooperation with the CoHMAB.
6) CoHMP Partnerships	a) Over 125 potential partnerships will be identified and contacted. b) Local CoHMP needs will be explored, evaluated and addressed. c) Final CoHMP Partnership Plan will be delivered for future HM grant years.
7) Statewide Needs Assessment	a) Identify the health of Colorado's existing vertical control network. b) Identify the health of surrounding state's ties to the vertical control network. c) Identify a HM partnership plan for NGS First and Second Order Leveling activities, GPS Observations and gravity measurements.

1.04 Outreach, Educational and Communication Literature and Material

Outreach, educational and communication literature and material shall consist of professional publications developed by the consultant such as:

- One page flyer
- Informational brochure
- Pamphlet
- Users guide
- Electronic emails
- Website postings
- Etc.

Development of all outreach and educational literature and material requires close communication between CDOT, the consultant and the CoHMAB. All outreach, educational and communication literature and material shall be reviewed and pre-approved by CDOT and the CoHMAB prior to its use. All electronic and hard copy outreach, educational and communication literature and material developed by the consultant shall become the property of CDOT and the CoHMAB for the future use by the CoHMP.

All outreach, educational and communication literature and material shall be supplied for by the consultant for the following:

- Outreach
- Education
- Communication
- CoHMP Forums
- CoHMP Technical Workshops
- Partnerships

Proposed Outreach, Educational and Communication Material	Proposed CoHMP Purpose and Use
One Page Flyer	A quick reference on the specific benefits of the CoHMP for use during any and all meetings, forums and technical workshops.
Brochure	A quick high level reference on the overall benefits of the NHMP and the CoHMP for use during any and all meetings, forums and technical workshops.
Pamphlet	A quick technical level reference on the process of integrating the CoHMP into day to day use of the vertical control network for use during meetings and technical workshops.
Users Guide	A detailed guide outlining the history and use of the vertical control network and how the CoHMP will benefit the NMP and all users.
Electronic Emails	Informational emails for use during email contacts or other distributions.
Website Postings	Informational webpages for use during email contacts or other mass distributions.

1.05 Partnerships - Outreach, Education and Communication

A coordinated CoHMP partnership outreach, education and communication campaign with the local, state and federal agencies identified below shall be developed, initiated and conducted by the consultant to provide feedback for the Statewide Needs Assessment and to support development of the Statewide CoHMP Partnership Plan.

Development of the partnership outreach, education and communication campaign requires close communication between CDOT, the consultant and the CoHMAB. All forums and workshops shall be reviewed and pre-approved by CDOT and the CoHMAB prior to being scheduled and held. Contacts may be consolidated by the use of TPR's and MPO's or other reasonable and necessary means if presented to and approved by CDOT and the CoHMAB prior to the contacts being made. The consultant shall provide a detailed account of every contact made either in person, email or by phone.

A proposed CoHMP outreach and educational campaign benchmark consists of the following:

- ❖ 100% telephone and/or email partnership contacts made
- ❖ 80% in-person partnership contacts made
- ❖ 70% partnership attendance at either one of the

- HM Forums
- HM Technical Workshops

➤ All of Colorado's 64 County Governments

Adams	Denver	Kit Carson	Phillips
Alamosa	Dolores	Lake	Pitkin
Arapahoe	Douglas	La Plata	Prowers
Archuleta	Eagle	Larimer	Pueblo
Baca	El Paso	Las Animas	Rio Blanco
Bent	Elbert	Lincoln	Rio Grande
Boulder	Fremont	Logan	Routt
Broomfield	Garfield	Mesa	Saguache
Chaffee	Gilpin	Mineral	San Juan
Cheyenne	Grand	Moffat	San Migue
Clear Creek	Gunnison	Montezuma	Sedgwick
Conejos	Hinsdale	Montrose	Summit
Costilla	Huerfano	Morgan	Teller
Crowley	Jackson	Otero	Washington
Custer	Jefferson	Ouray	Weld
Delta County	Kiowa	Park	Yuma

➤ All of Colorado's 19 State Agency Governments

Agriculture	Law	Public Health and Environment
Corrections	Labor & Employment Law	Public Safety
Education	Local Affairs	Regulatory Agencies
Health Care Policy & Finance	Military and Veterans Affairs	Revenue
Higher Education	Natural Resources	State
Human Services	Personnel and Administration	Transportation
		Treasury

➤ All of Colorado's 5 Metropolitan Planning Organizations (MPO's may be used to consolidate county contacts)

Denver Regional Council of Governments (DRCOG)
Grand Valley MPO (GVMPO)
North Front Range MPO (NFRMPO)
Pueblo Area Council of Governments (PACOG)
Pikes Peak Area Council of Governments (PPACG)

➤ All of Colorado's 15 Transportation Planning Regions (TPR's may be used to consolidate county contacts)

Pikes Peak	San Luis Valley
Denver Metro	Gunnison Valley
North Front Range	Southwest
Pueblo Area	Intermountain
Grand Valley	Northwest
Eastern	Upper Front Range
Southeast	Central Front Range
	South Central

➤ Colorado's 2 Indian Tribes

Southern Ute Indian Tribe	Ute Mountain Ute Indian Tribe
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- Additional Local Government (may be used to consolidate county contacts)

Northwest Colorado Council of Governments

- Colorado's 19 Federal Agencies

Agricultural Research Service Army Corps of Engineers Bureau of Census Bureau of Indian Affairs Bureau of Land Management Bureau of Reclamation Council on Environmental Quality Department of Housing and Urban Development Department of State	Environmental Protection Agency Federal Emergency Management Agency Fish and Wildlife Service Food and Drug Administration Forest Service National Institute of Environmental Health Sciences National Oceanic and Atmospheric Administration National Park Service Natural Resources Conservation Service United States Geological Survey
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1.06 Forums and Technical Workshops

The proposed CoHMP outreach, educational and communication campaign consists of the consultant developing professional literature, material and handouts, scheduling, coordinating, facilitating and providing detailed attendance rosters and minutes of the following forums and workshops:

CoHMP Forums

Two (2) CoHMP forums are proposed; one held on the east slope and one held on the west slope of Colorado in a manner as to capture the largest audience possible. The target audiences of the forums are high level decision makers and stakeholders at the federal, state and local government levels. The purposes of the forums are:

- Outreach
- Education
- Communication
- Partnerships
- Statewide Needs Assessment

CoHMP Technical Workshops

Two (2) CoHMP technical workshops are proposed; one held on the east slope and one held on the west slope of Colorado in a manner as to capture the largest audience possible. The target audiences of the technical workshops are the users of the vertical control network and the integrators of knowledge and technology. The purpose of the technical workshops is to transfer knowledge and technology from the NHMP, to the CoHMP partners through Local Public Agencies and private enterprise.

Technical workshops may consist of specific technical process and/or applications such as equipment, data collection methods, procedures, hardware, software, new technologies, data formats and submittals.

Development of any forum or technical workshop requires close communication between CDOT, the consultant and the CoHMAB.

All forums and workshops shall be reviewed and pre-approved by CDOT and the CoHMAB prior to being scheduled and held. All electronic and hard copy forum and technical workshop material developed by the consultant shall become the property of CDOT and the CoHMAB for the future use by the CoHMP.

1.07 Statewide Needs Assessment

The consultant shall conduct a Statewide Needs Assessment throughout this Scope of Work and shall provide a final Statewide Needs Assessment to address the minimum requirements in detail:

- Identify the history and health of Colorado's existing vertical control network.
 - Monumentation
 - Leveling
 - Disturbance
 - Destroyed
- Identify the history and health of surrounding states' ties to Colorado's vertical control network.
- Identify, develop and provide a comprehensive Statewide Needs Assessment Plan for:
 - National Geodetic Survey (NGS) First Order Leveling
 - NGS Second Order Leveling
 - NGS Third Order Leveling
 - NGS Global Positioning System (GPS) Observations
 - NGS Gravity Measurements
 - New Technologies

The Statewide Needs Assessment shall provide current and factual information and shall provide the fundamental basis for development of the Statewide CoHMP Partnership Plan.

1.08 Statewide CoHMP Partnership Plan

The overall goal and objective of the CoHMP is for the consultant to provide CDOT and the CoHMAB with a Statewide CoHMP Partnership Plan. The supporting goals and objectives stated above for this project are intended to support the consultant's development of the Statewide Needs Assessment and the Statewide CoHMP Partnership Plan.

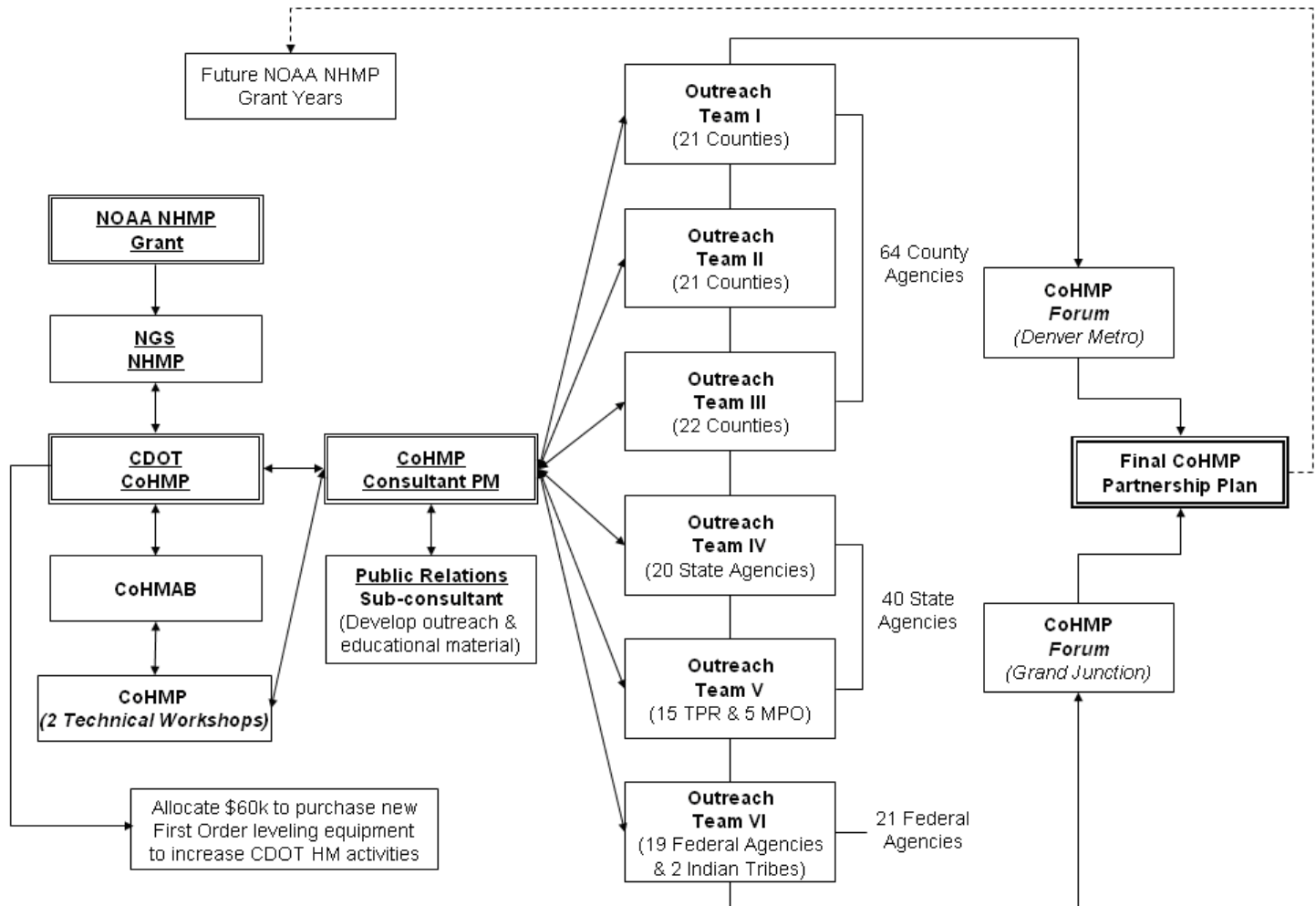
The Statewide CoHMP Partnership Plan shall provide future direction to CDOT and the CoHMAB regarding specific height modernization activities on a statewide level in order to move the CoHMP forward and receive additional grant awards.

The consultant shall provide a final Statewide CoHMP Partnership Plan with the following information at a minimum in detail:

- Partnership Contact Information
 - Federal agency
 - State agency
 - Local agency
 - Metropolitan Planning Organization (MPO)
 - Transportation Planning Region (TPR)
 - Indian Tribe
 - Additional local governments
 - Private enterprise
 - Other

- Partnership Geographic area
 - Federal
 - State
 - County
 - City
 - MPO
 - TPR
 - Indian Reservation
 - Additional local governments
 - Private enterprise
 - Specific Highway Corridor (this is needed for CDOT project planning)
 - Interstate
 - U.S. Highway
 - State Highway
 - Major route connections
 - Other
- Partnership Height Modernization Specific Activity and Need
 - National Geodetic Survey (NGS) First Order Leveling
 - NGS Second Order Leveling
 - NGS Third Order Leveling
 - NGS Global Positioning System (GPS) Observations
 - NGS Gravity Measurements
 - New Technologies
- Partnership Height Modernization Specific Project Information
- Partnership Height Modernization Contribution
 - National network
 - Local network
 - Equipment
 - Resources
 - Data collection
 - Data processing
 - Data submittals
 - Funding
 - Other

Section 2 – CoHMP Proposed Project Team



Section 3 – CoHMP Proposed Project Timeline

